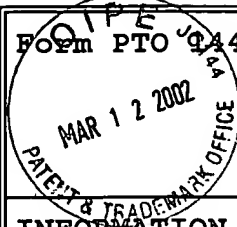


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	APPLICANT: Palczewski et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: November 21, 2001	GROUP: 1645

U.S. PATENT DOCUMENTS

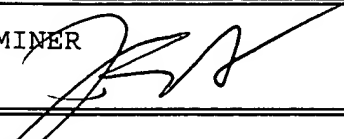
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EXAM. INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION (YES/NO)

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)

7	Ballesteros and Palczewski, "G protein-coupled receptor drug discovery: implications from the crystal structure of rhodopsin," <u>Curr. Opin. in Drug Discov. & Develop.</u> 4(5) (2001).
7	Bikker et al., "G-protein coupled receptors: models, mutagenesis, and drug design," <u>J. Med. Chem.</u> 41(16):2911-2927 (1998).
7	Bouvier et al., "Expression and recovery of functional G-protein-coupled receptors using baculovirus expression systems," <u>Curr. Opin. Biotech.</u> 9:522-527 (1998).

EXAMINER 	DATE CONSIDERED 7-24-02
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

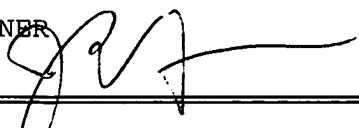
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Page 2 of 7

Form PTO 1449 US Department of Commerce Patent and Trademark Office MAR 12 2002 TRADEMARK OFFICE	ATTY DOCKET NO. 1600/2000 P-NS 4970	SERIAL NO. 09/990,185
	APPLICANT: Palczewski et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: November 21, 2001	GROUP: 1645

	Ebrey and Koutalos, "Vertebrate Photoreceptors," <u>Prog. in Retinal and Eye Res.</u> 20(1):49-94 (2001).
	Elliott et al., "Localization of the Rhodopsin gene to the distal half of mouse chromosome 6," <u>Genomics</u> 6:635-644 (1990).
	Frederick et al., "Mutant Rhodopsin transgene expression on a null background," <u>Invest. Ophthalm. Visual Sci.</u> 42(3):826-833 (2001).
	Geiger et al., "Transgenic mice expressing IFN- γ in the retina develop inflammation of the eye and photoreceptor loss," <u>Invest. Ophthalm. Visual Sci.</u> 35(6): 2667-2681 (1994).
	Gether, "Uncovering molecular mechanisms involved in activation of G protein-coupled receptors," <u>Endocrine Reviews</u> 21(1):90-113 (2000).
	Gu et al., "Deletion of a DNA polymerase β gene segment in T cells using cell type-specific gene targeting," <u>Science</u> 265:103-106 (1994).
	Hargrave, "Rhodopsin structure, function, and topography: the friedenwald lecture," <u>Invest. Ophthalm. Visual Sci.</u> 42(1):3-9 (2001).
	Humphries et al., "Retinopathy induced in mice by targeted disruption of the rhodopsin gene," <u>Nature Genetics</u> 15:216-219 (1997).
	Kilby et al., "Site-specific recombinases: tools for genome engineering," <u>TIG</u> 9(12):
	Knox et al., "Transgene expression in <i>Xenopus</i> rods," <u>FEBS Letters</u> 423:117-121 (1998).
	Kobayashi et al., "A novel strategy for the negative selection in mouse embryonic stem cells operated with immunotoxin-mediated cell targeting," <u>Nucleic Acids Res.</u> 24(18):3653-3655 (1996).
	Kroll and Amaya, "Transgenic <i>Zenopus</i> embryos from sperm nuclear transplantations reveal FGF signaling requirements during gastrulation," <u>Development</u> 122:3173-3185 (1996).

EXAMINER 	DATE CONSIDERED 7.24.03
---	----------------------------

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Page 3 of 7

Form PTO-1449 US Department of Commerce Patent and Trademark Office	ATTY DOCKET NO. P-NS 4970	SERIAL NO. 09/990,185
	APPLICANT: Palczewski et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: November 21, 2001	GROUP: 1645

		Kumar et al., "Rhodopsin replacement rescues photoreceptor structure during a critical developmental window," <u>Developmental Biology</u> 188:43-47 (1997).
		Labarca et al., "Point mutant mice with hypersensitive $\alpha 4$ nicotinic receptors show dopaminergic deficits and increased anxiety" <u>Proc. Natl. Acad. Sci. USA</u> 98(5):2786-2791 (2001).
		Lakso et al., "Efficient in vivo manipulation of mouse genomic sequences at the zygote stage," <u>Proc. Natl. Acad. Sci. USA</u> 93:5860-5865 (1996).
		Laporte et al., "The β_2 -adrenergic receptor/ β arrestin complex recruits the clathrin adaptor AP-2 during endocytosis," <u>Proc. Natl. Acad. Sci. USA</u> 96:3712-3717 (1999).
		Ledermann "Embryonic stem cells and gene targeting," <u>Exp. Physiology</u> 85.6:603-613 (2000).
		Lem et al., "Tissue-specific and developmental regulation of rod opsin chimeric genes in transgenic mice," <u>Neuron</u> 6:201-210 (1991).
		Lem et al., "Morphological, physiological, and biochemical changes in rhodopsin knockout mice," <u>Proc. Natl. Acad. Sci. USA</u> 96:736-741 (1999).
		Li et al., "Constitutive activation of phototransduction by K296E opsin is not a cause of photoreceptor degeneration," <u>Proc. Natl. Acad. Sci. USA</u> 92:3551-3555 (1995).
		MacKenzie et al., "Localization of binding sites for Carboxyl terminal specific Anti-Rhodopsin monoclonal antibodies using synthetic peptides," <u>Biochemistry</u> 23:6544-6549 (1994).
		Mani et al., "Xenopus Rhodopsin Promoter," <u>J. of Biological Chem.</u> 276:36557-36565 (2001).
		Mansour et al., "Introduction of a lacZ reporter gene into the mouse int-2 locus by homologous recombination," <u>Proc. Natl. Acad. Sci. USA</u> 87:7688-7692 (1990).

EXAMINER 	DATE CONSIDERED 7.24.03
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

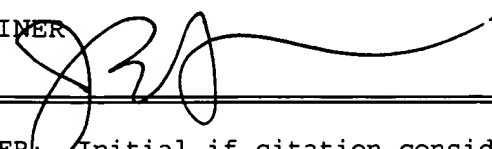
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Page 4 of 7

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	APPLICANT: Palczewski et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: November 21, 2001	GROUP: 1645

9	McDonald and Lefkowitz, "βarrestins: New roles in regulating heptahelical receptors' functions," <u>Cellular Signaling</u> 13:683-389 (2001).
	McNally et al., "Structural and functional rescue of murine rod photoreceptors by human rhodopsin transgene," <u>Human Mol. Genet.</u> 8(7):1309-1312 (1999).
	Miller, "Vascular endothelial growth factor and ocular neovascularization," <u>Amer. J. Pathology</u> 151(1):13-23 (1997).
	Miller and Lefkowitz, "Expanding roles for β-arrestins as scaffolds and adapters in GPCR signaling and trafficking," <u>Cell Regulation</u> 13:139-145 (2001).
	Milligan, "Construction and analysis of function of G protein-coupled receptor-G protein fusion proteins," <u>Methods in Enzymology</u> 343:260-273 (2002).
	Mirzabekov et al., "Paramagnetic proteoliposomes containing a pure, native, and oriented seven-transmembrane segment protein, CCR5," <u>Nature America Inc.</u> 18:649-654 (2000).
	Molday et al., "Inhibition of Monoclonal antibody binding and Proteolysis by light-induced phosphorylation of Rhodopsin" <u>Biochemistry</u> 24:776-781 (1985).
	Moritz et al., "A functional Rhodopsin-green fluorescent protein fusion protein localizes correctly in transgenic <i>Xenopus laevis</i> retinal rods and is expressed in a time-dependent pattern," <u>J. of Biological Chem.</u> 276(30):28242-28251 (2001).
9	Mortensen et al., "Production of homozygous mutant ES cells with a single targeting construct" <u>Mol. Cell. Biol.</u> 12:2391-2395 (1992).

EXAMINER 	DATE CONSIDERED 7.24.03
---	----------------------------

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	APPLICANT: Palczewski et al. FILING DATE: November 21, 2001	GROUP: 1645

9	Muller, "Ten years of gene targeting: targeted mouse mutants, from vector design to phenotype analysis," <u>Mechanisms of Development</u> 82:3-21 (1999).
	Nie et al., "RER, an evolutionary conserved sequence upstream of the Rhodopsin gene, has enhancer activity," <u>J. of Biological Chem.</u> 271(5):2667-2675 (1996).
	Okada et al., "Crystallization Note: X-ray diffraction analysis of three-dimensional crystals of bovine rhodopsin obtained from mixed micelles," <u>J. Struc. Biology</u> 130:73-80 (2000).
	Okada et al., "Highly selective separation of Rhodopsin from Bovine Rod outer segment membranes using combination of Divalent Cation and Alkyl(thio)glucoside" <u>Photochem. and Photobio.</u> 67:495-499 (1998).
	Okamoto et al., "Animal Model: transgenic mice with increased expression of vascular endothelial growth factor in the retina: a new model of intraretinal and subretinal neovascularization," <u>Amer. J. Pathology</u> 151(1)281-291 (1997).
	Palczewski et al., "Crystal Structure of Rhodopsin: A G protein-coupled receptor," <u>Science</u> 289:739-745 (2000).
	Papermaster et al., "Preparation of Retinal Rod outer segments" <u>Methods in Enzymology</u> 81:48-52 (1982).
	Reeves et al., "Structure and function in rhodopsin: High level expression of a synthetic bovine opsin gene and its mutants in stable mammalian cell lines," <u>Proc. Natl. Acad. Sci. USA</u> 93:11487-11492 (1996).
	Reilander and Weiß, "Production of G-protein-coupled receptors in yeast," <u>Curr. Opin. Biotech.</u> 9:510-517 (1998).
	Seifert et al., "GPCR-G α fusion proteins: molecular analysis of receptor-G-protein coupling," <u>TIPS</u> 20:383-389 (199).

EXAMINER 	DATE CONSIDERED 7.24.03
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EXAMINER. Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

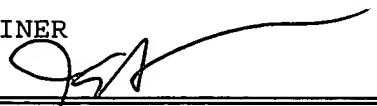
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Page 6 of 7

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT		APPLICANT: Palczewski et al. FILING DATE: November 21, 2001	GROUP: 1645

9		Sieving et al., "Constitutive "Light" adaption in rods from G90D Rhodopsin: A mechanism for Human Congenital Nightblindness without Rod cell loss" <u>J. Neurosci.</u> 21(15):5449-5460 (2001).
		Smith et al., "Identification of regions of arrestin that bind to Rhodopsin," <u>Biochemistry</u> 38:2752-2761 (1999).
		Tai et al., "Rhodopsin's carboxy-terminal cytoplasmic tail acts as a membrane receptor for cytoplasmic dynein by binding to the dynein light chain Tctex-1," <u>Cell</u> 97:877-887 (1999).
		Tam et al., "Identification of an outer segment targeting signal in the COOH terminus of Rhodopsin using transgenic <i>Xenopus laevis</i> ," <u>J. of Cell Biology</u> 151(7):1369-1380 (2000).
		Teller et al., "Advances in determination of a high-resolution three-dimensional structure of rhodopsin, a model of G-protein-coupled receptors (GPCRs)," <u>Biochemistry</u> 40(26):7761-7772 (2001).
		Van Hooser et al., "Rapid restoration of visual pigment and function with oral retinoid in a mouse model of childhood blindness" <u>Proc. Natl. Acad. Sci. USA</u> 97(15):8623-8628 (2000).
		Vasquez et al., "Manipulating the mammalian genome by homologous recombination," <u>Proc. Natl. Acad. Sci. USA</u> 98(15):8403-8410 (2001).
		Weng et al., "Functional coupling of a human retinal metabotropic glutamate receptor (hmGluR6) to bovine rod transducin and rat G _o in an in Vitro reconstitution system," <u>J. of Biological Chem.</u> 272(52):33100-33104 (1997).
9		Wu et al., "Interaction of arrestins with intracellular domains of muscarinic and α 2-adrenergic receptors," <u>J. of Biological Chem.</u> 272(28):17836-17842 (1997).

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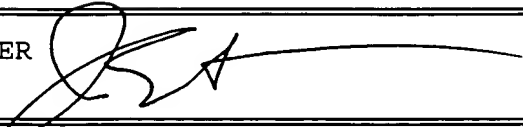
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Page 7 of 7

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	APPLICANT: Palczewski et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: November 21, 2001	GROUP: 1645

	Xu et al., "Direct removal in the mouse of a floxed neo gene from a three-IoxP conditional knockout allele by two novel approaches," <u>Genesis</u> 30:1-6 (2001).
	Yagi et al., "Homologous recombination at <i>c-fyn</i> locus of mouse embryonic stem cells with use of diphtheria toxin A-fragment gene in negative selection," <u>Proc. Natl. Acad. Sci. USA</u> 87:9918-9922 (1990).
	Yang et al., "The tumor suppressor SMAD4/DPC4 is essential for epiblast proliferation and mesoderm induction in mice," <u>Proc. Natl. Acad. Sci. USA</u> 95:3667-3672 (1998).
	Zack et al., "Unusual Topography of Bovine Rhodopsin Promoter-IacZ fusion gene expression in transgenic mouse retinas" <u>Neuron</u> 6:187-199 (1991).

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